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AUTHOR Christiansen, Peter
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ABSTRACT

The activities of the Nucleus Testing Committee, particularly its Curriculum Related Subcommittee, of the Madison, Wisconsin public schools are described in relation to its effort to bring about increased awareness of the need for reexamination of both district-wide and local school evaluation procedures. The sub-committee's recommendations are provided. (DB)

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CURRICULUM-RELATED TESTING:

AN IMPROVEMENT PROGRAM

Peter Christiansen, III
Coordinator of Mathematics
Madison Public Schools
Madison, Wisconsin
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Introduction

Every educator acknowledges, more or less axiomatically, the need for curriculum-related testing. While the primary reason for such testing from the teacher's point of view is to gather data on individual student achievement, the increased demand for accountability in education is forcing more educators to exhibit a greater concern for program assessment. The limitations of norm-referenced measurement (NRM) relative to both student and program assessment are well documented. Further, the increase in earnest attempts to provide for more individualization of instruction coupled with the NRM limitations has resulted in greater attention being given to criterion-referenced measurement (CRM). If the reaction of the members of the Madison Public Schools' Nucleus Testing Committee is an accurate indicator, as a teacher perceives a need for more sophisticated evaluation tools and becomes more fully aware of the intricacies of test construction and analysis, he immediately becomes more critical of both his own and his collegues' current evaluation instruments and procedures.

The purpose of this paper is to chronicle the activities of the Nucleus Testing Committee, particularly its Curriculum-Related Subcommittee, in its effort to bring about increased awareness of the need for reexamination of both district-wide and local school evaluation procedures. The background and present activity of the Subcommittee will be related to its resultant recommendations and projected future relevant activity in Madison, whether directly or indirectly associated with the Subcommittee's recommendations.

Background

The Nucleus Testing Committee was formed in the fall of 1970, primarily in response to growing concern over the benefits of the Madison Public Schools' city-wide testing

program relative to its cost.[1] Committee membership included teacher, principal, and/or guidance counselor representatives from nearly all of Madison's schools and several members of the central office departments of Curriculum and Pupil Services. Dr. T. Anne Cleary, University of Wisconsin psychometrician, served as the chief consultant to the Committee, while Dr. Walter Mathews (then a Testing Research Assistant in the Curriculum Department) coordinated the Committee activities, assisted by two other members of the Curriculum Department. Committee members received University of Wisconsin academic credit for participation in what was intended to be (and indeed was - and is) a combination of inservice in the area of evaluation and decision-making input (via recommendations) to the future course of both district-wide and local school evaluation activities.

The one early Committee activity that probably contributed most to its current status and future direction was a survey of testing needs. The results of this survey, reported elsewhere by Dr. Myron Seeman, clearly indicated that testing needs and interests ranged far beyond those (if any) satisfied by district-wide testing, and led to the formation of subcommittees in the areas of standardized testing, curriculum-related testing, and affective testing.

The 1970-71 activity of the Curriculum-Related Subcommittee consisted primarily of inservice (particularly with respect to the relative merits of CRM in comparison to NRM), informal assessment of local school curriculum-related evaluation practices, and receipt of information about local and area multi-school programs of curriculum-related evaluation of objective-based instruction. These deliberations, interrupted

[1]For example, it became apparent, through an informal study of local elementary school mathematics standardized test results conducted by the writer, that the city-wide mathematics test then in use did not adequately measure achievement of the program objectives. This finding was corroborated in an article by Henderson entitled "Mathematics Tests Analyzed" (Wisconsin Journal of Education. May, 1968) in which it was clearly illustrated that three "widely-used, popular" standardized mathematical skill achievement and concept understanding tests fell far short of adequately reflecting achievement of contemporary mathematics content objectives compiled by a blue ribbon committee of Wisconsin mathematics educators.

in the spring of 1971 in order to participate in the formulation of a Committee-of-the-whole recommendation for the direction of the 1971-72 district-wide testing program, resulted in the following Subcommittee report and recommendations.

> "Curriculum-related testing can provide for the evaluation of the accomplishment of the K-12 objectives for all disciplines in the Madison Public Schools. These tests will be made available for use by individual schools, single classrooms, or individual pupils for frequent testing to provide the basis for continuous planning of the goal oriented instruction of each child. They can help the pupil and teacher focus on specific skills and learning, give the pupil direction for self-evaluation and help him assume increasing responsibility for future learning. The Nucleus Testing Committee views curriculum-related testing as the most meaningful measure of a student's academic progress and therefore places high priority upon the development of objective-based curriculum and instruments to measure mastery of the objectives. Curriculum-related testing could then supercede the need for standardized testing of every student.
>
> To develop these tests, the curriculum-related group will:
>
> 1. Recommend the funding of a special summer project to complete the kindergarten curriculum-related measurement project. Summer, 1972.
>
> 2. Receive inservice or graduate course work in the development of instructional objectives and measurement instruments. (Individuals from attendance area objectives projects would be invited to join.) 1971-1972 school year.
>
> 3. Participate in continuing projects to develop instructional objectives; e.g., the Memorial Mathematics Pyramid Project and the LaFollette Reading Project.
>
> 4. Assist in the development of instruments designed to measure instructional objectives prepared. Summer 1972 and beyond.
>
> 5. Develop recommended strategies for involving students in goal-setting.
>
> 6. Pilot and evaluate curriculum-related tests. 1973-1974 school year.
>
> 7. Initiate and assist projects in selected curriculum areas to design curriculum-related tests.
>
> 8. Develop a meaningful scoring, reporting, and interpreting system for staff, parents, and students.
>
> 9. Devise a recommended plan for involving students in the identification of goals and objectives."[2]

[2]"Recommendations for the Madison Public Schools Testing Program, 1971-72" (a Nucleus Testing Committee internal report)

Curiously enough, though perhaps reflective of the group's inexperience, no definite plans for evaluation of either the feasibility of the Subcommittee's goals or its progress toward same were delineated at that time.

Present Activity

The 1971-72 academic year administration of the Nucleus Testing Committee fell into the hands of Dr. Lee Hansen upon his assumption of the newly created position of Coordinator of Testing and Research for the Madison Public Schools. The previous year's subcommittees remained active despite some turnover in Committee membership.

Dr. Hansen cited the tendency to make testing program decisions primarily in answer to "how" questions; e.g., "How are we going to gather the data? What tests shall we give, and when? Where shall we record the information?"[3] He went on to suggest that priority ought to be given first to determination of why we ought to test (information needs), what kinds of test information will best meet the identified needs, and the potential cost-benefit balance of a particular evaluation project. The Curriculum-Related Subcommittee took up the challenge, considering the problems of individual pupils, program effectiveness, and student population evaluation, where its 1970-71 concentration was essentially limited to individual pupil evaluation.

The Committee followed the pattern of the previous year in that strongly expressed inservice needs began to give way to more practical local evaluation decision-making needs. Thus the Subcommittee's 1971-72 activity to date has shifted from curriculum-related testing inservice (including actual development and field testing sample of objective-based criterion-referenced tests) and an introduction to program-fair assessment techniques (via a presentation of a driver education program assessment project developed by Dr. Robert Clasen of the University of Wisconsin's School of

[3]Hansen, L. H. "A Direction for Testing in Madison: A Position Paper" (March, 1972)

Education) to involvement with ongoing local objective-based assessment projects. Two such projects that have received considerable Subcommittee attention are the Pilot Reading Assessment and the Memorial Mathematics Pyramid (MMP) Project.

The reading project resulted from acceptance of a proposal on the part of the Wisconsin Department of Public Instruction that Madison pilot a state-wide assessment plan developed by Dr. John Gottman of the University of Wisconsin.[4] Involvement in this project has resulted in acquisition of a measure of literacy in the Madison Public Schools, accumulation of criterion-referenced data, development of an evaluation design for reading programs, and experience with the use of the "cloze" measure of reading literacy developed by Dr. John Bormuth of the University of Chicago.[5]

The MMP project, begun in 1970, represents an effort to develop a student achievement retrieval system.

> "The Memorial Mathematics Pyramid (MMP) project (so named because its impact area is the "pyramid" of elementary and middle schools that feed James Madison Memorial High School) has addressed itself directly to the problems caused and valuable classroom time wasted by insufficient or unreliable student achievement data. It is a grass roots effort in that it was wholly conceived and generated within the Memorial attendance area by teachers and principals from all levels who recognized the need for retrieval of student achievement data in both conventional and continuous progress (individualized) instructional modes.... The (1971) product consisted of a revised set of concepts accompanied by criterion-referenced evaluation instruments (at least one for each concept) for grades K-8."[6]

The MMP project has been locally funded again for the summer of 1972 for revision and extension. The MMP project staff has since its outset contained at least one member of the Nucleus Testing Committee.

Subcommittee Recommendations

A revised set of Curriculum-Related Subcommittee recommendations, included in

[4]"Pilot Reading Assessment" (internal report) 1972.

[5]Bormuth, J. "Development of Standards of Readability: Toward a Rational Criterion of Passage Performance" (Final project report to the U.S. Department of Health, Education, and Welfare) 1971.

[6]Reinicke, D. and Christiansen, P. "The Memorial Mathematics Pyramid" Wisconsin Teacher of Mathematics. (Winter, 1972)

Dr. Hansen's position paper referred to earlier, follow:

1. Provide systematic city-wide testing (at fixed time periods) in those curriculum areas where survival skills, e.g., reading, mathematics, composition, and study skills, are taught.

2. Support the use of criterion-referenced tests (like the cloze test in reading) to assess how well we are teaching survival skills by recommending the immediate development of a criterion-referenced performance test of applied mathematics skills to be administered to high school students.

3. Recommend that the school system (possibly by attendance area) devise a long range schedule for systematically and periodically evaluating (on a rotating basis) other (non-survival skill) instructional programs, so that testing projects can be locally developed to support this evaluation schedule.

4. Support the concept of program-fair assessment for most instructional evaluation by giving specific support this year to two program fair-assessment projects in mathematics in the Memorial attendance area.

5. Recommend that a feasibility study be jointly conducted by the Nucleus Testing Committee and the Superintendent's Committee on Computer Applications to Instruction to determine if we can develop a diagnostic testing package for mathematics and reading as part of a computer-managed instructional system. (A final report to be presented by January 1, 1973)

6. Recommend that the Curriculum Department conduct a study to determine the feasibility of providing a coded concept-behavioral objective-test item bank as a resource that attendance areas and schools might draw upon as they build curriculum. Such a bank might be a part of the Curriculum Management Information System being proposed by the Director of Curriculum. (A final report by March, 1973.)

Note that implementation of recommendations 1, 2, and 4 is already under way.

Projected Future Activity

In conjunction with its pursuit of the abovementioned recommended activities, the Subcommittee will continue to identify and seek to provide for both internal (Subcommittee) and external (local school or district-wide) inservice needs. Attention will be given to high school attendance area (all elementary and middle schools feeding a given high school) curriculum-related evaluation needs in addition to local school and district-wide needs, since evidence exists of considerable student population differences. Coordination within and between these three administrative levels

is essential to avoid costly duplication of effort or expensive growth of projects and program alternatives without previous evaluation.

Summary

In general the activity of the Nucleus Testing Committee to date has already provided district-wide benefits in addition to the personal enrichment of its members. The potential multiplier effect is increasingly apparent.

Growth in sophistication of curriculum-related evaluation, of individual pupil progress through objective-based instruction and criterion-referenced testing, and of program-fair assessment is inevitable. Furthermore, in light of increasing community demands for accountability, it is particularly timely. It does not seem unreasonable to expect that operational Madison models with nation-wide applicability will be emerging soon.

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